

WHAT IS CLAIMED IS:

1 Sub A27 1. A method for a receiver to provide access to a system time clock
2 (STC) to a decoder, the method comprising:

- 3 (a) receiving data from the decoder into a first register in a bus interface,
4 where the bus interface couples the receiver to a bus;
5 (b) latching a timestamp of the STC into a second register in the bus
6 interface after receiving the data; and
7 (c) providing the timestamp to the decoder by way of the second register.

1 2. The method according to claim 1 wherein the decoder is part of an
2 audio-visual interface.

1 3. The method according to claim 1 wherein the decoder is part of a
2 computer network interface.

1 4. A method for synchronizing a digital video system including a
2 transmitter, a receiver, and a decoder, the method comprising:
3 (a) receiving a first transport packet from the transmitter;
4 (b) capturing a first system time clock (STC) timestamp at a start of
5 receiving the first transport packet, the first STC timestamp being captured into a latch;
6 (c) obtaining a program clock reference (PCR) timestamp from the
7 transport packet;
8 (d) comparing the first STC timestamp to the PCR timestamp to generate
9 a comparison result; and
10 (e) adjusting an STC frequency based on the comparison result in order to
11 maintain synchronization between the receiver and the transmitter.

1 5. The method according to claim 4 wherein the method is
2 accomplished in the receiver.

1 6. The method according to claim 4 further comprising:
2 (a) capturing a system timestamp with the decoder; and
3 (b) adjusting the system timestamp with a scaled offset based on a
4 message delay time between the decoder and the receiver to maintain synchronization
5 between the decoder and the receiver.

1 7. The method according to claim 4 further comprising:

- 2 (a) receiving data from the decoder into a first register in a bus interface,
3 wherein the decoder is coupled to a communication bus, and where the bus interface
4 couples the receiver to the communication bus;
- 5 (b) latching a second STC timestamp into a second register in the bus
6 interface after receiving the data from the decoder; and
- 7 (c) providing the second STC timestamp to the decoder by way of the
8 second register.

1 8. The method according to claim 4 wherein the decoder is part of an
2 audio-visual interface.

1 9. The method according to claim 4 wherein the decoder is part of a
2 computer network interface.

1 10. A system for a receiver to provide access to a system time clock
2 (STC) to a decoder, the system comprising:

- 3 (a) a communication bus coupled to the decoder;
- 4 (b) a bus interface in the receiver, the bus interface coupling the receiver
5 to the communication bus;
- 6 (c) a first register in the bus interface, the first register being adapted to
7 receive data across the communication bus from the decoder; and
- 8 (d) a second register in the bus interface, the second register being adapted
9 to latch a timestamp of the STC after the first register receives the data and to provide the
10 timestamp to the decoder by way of the communication bus.

1 11. The system according to claim 10 wherein the decoder is part of an
2 audio-visual interface.

1 12. The system according to claim 10 wherein the decoder is part of a
2 computer network interface.

1 13. A system for synchronizing a digital video transmitter, receiver,
2 and decoder, the system comprising:

1 14. The system according to claim 13 wherein the parser and latch are
2 in the receiver.

15. The system according to claim 13 further comprising:

(a) a second latch in the decoder, the second latch being adapted to capture a system timestamp; and

4 (b) a second adjuster coupled to the decoder, the second adjuster being
5 adapted to adjust the system timestamp with a scaled offset based on a message delay
6 time between the decoder and the receiver to maintain synchronization between the
7 decoder and the receiver.

16. The system according to claim 13 further comprising:

2 (a) a first register in a bus interface, the first register being adapted to
3 receive data from the decoder, where the decoder is coupled to a communication bus, and
4 where the bus interface couples the receiver to the communication bus; and

5 (b) a second register in the bus interface, the second register being adapted
6 to latch a second STC timestamp after the first register receives the data from the decoder,
7 wherein the second STC timestamp is provided to the decoder by way of the second
8 register.

1 17. The system according to claim 13 wherein the decoder is part of an
2 audio-visual interface.

1 18. The system according to claim 13 wherein the decoder is part of a
2 computer network interface.

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